WELCOME TO THE INTERNATIONAL RESEARCH TRAINING GROUP 1816

The International Research Training Group 1816 (IRTG) is funded by the German Research Foundation (Deutsche Forschungsgemeinschaft) and the King's College London British Heart Foundation Centre of Research Excellence (BHF).

The IRTG provides a stimulating and interdisciplinary environment for young PhD student researchers in the field of cardiovascular science.

The research programme aims to identify new targets for the future development of novel therapies to prevent or treat heart failure. Besides the research programme the IRTG 1816 offers a high-level teaching programme. Both graduate training and research are highly collaborative between the research groups in London and Göttingen, including joint training sessions and an active exchange program for the PhD students.

ADVERTISEMENT

The International Research Training Group 1816 (Director in Göttingen: Prof. Dr. Dörthe M. Katschinski, Prof. Dr. Susanne Lutz; Director in London: Prof. Dr. Ajay Shah, Prof. Dr. Metin Avkiran) is planning to award up to 12 PhD positions (PhD track; Dr. rer. nat.)

Project start: April 1st, 2019

Eligibility criteria - PhD track (PhD or Dr. rer. nat):

- M.Sc. in basic sciences or equivalent or Graduation (Dr. med.) from Medical school
- Proof of English proficiency as English is the graduate school`s official language (e.g. TOEFL or similar test, not for native speakers)
- The PhD positions will be paid according to the regulations of the civil service collective wage agreement (TV-L 65% of level E13)

Please refer to http://www.grk1816.med.uni-goettingen.de/ for all application details, deadlines and for more information on the graduate programme.

For further information please contact
igk1816@med.uni-goettingen.de

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British Heart Foundation

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UNIVERSITÄTSMEDIZIN GÖTTINGEN UMG

INTERNATIONAL RESEARCH TRAINING GROUP **1816**

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IRTG 1816

KING'S College LONDON

Herz Zentrum Göttingen

PROFILE

Heart failure is of great significance in cardiovascular medicine based on its high incidence, morbidity and mortality rate. Unraveling underlying mechanisms is therefore of clinical and socioeconomic relevance. In the past posttranslational modifications like redox- and phosphorylation changes have been identified to be involved in the molecular mechanisms governing cardiac function. A detailed understanding of the specifically involved enzymes, redox- and phosphorylation crosstalks in different cell types from the heart and unraveling phospho-proteome and redox-proteome levels in early heart failure, however, is necessary to gain translational benefit of this research for the treatment of patients.

Principal investigators from the King´s College London and the Heart Centre Göttingen with individual expertise in this topic as well as with individual training options have identified collaborative projects which will benefit the research training unit. Within this scientific cooperation an innovative student training programme has been designed.

TRAINING

The qualification programme for the MD and PhD students is embedded in the framework of the PhD Molecular Medicine programme of the GAUSS school. GAUSS is a joint enterprise between six faculties of the University Göttingen, the Max Planck Institutes for Biophysical Chemistry, Experimental Medicine and Dynamic and Self Organization as well as the German Primate Centre

CURRICULUM

PhD curriculum

The PhD programme is a three-year curriculum according to the standing orders of GAUSS. The students perform their independent projects in the various research groups and are trained in common training activities, seminars and courses. The coursework is calculated according to the European Credit Transfer Accumulation System (ECTS). In case of the PhD programme the obligatory part is equivalent to 20 credits.

MD curriculum

The MD programme is a one-year curriculum. The qualification programme for the MD students is designed to support excellent Medical students during their dissertation to finish a thesis, which is at least equivalent to a Master of Science and qualifies the students to apply for a subsequent PhD training. In case of the MD programme the obligatory part is equivalent to 5 credits.

Exchange programme to the partner institution

Research visits (one or more with an overall duration of 6-12 months (PhD) or 1-3 months (MD)) reciprocal between Göttingen and London are a key element of the IRTG 1816. The rotation is meant to support the collaborative aspect of the research projects and the joined training.

Thesis Committee

Every student is guided and supported by a Thesis Committee, which consists of a Faculty member of each partner institution. The main impact in the training cooperation between the Heart Centre Göttingen and the King´s College London will be the joint supervision.

RESEARCH PROGRAMME

Heart failure is a leading cause of cardiovascular morbidity and mortality. Despite a wealth of knowledge about molecular alterations in heart failure, there is a vital lack of understanding about early molecular mechanisms governing the transition to overt heart failure.

Specific and highly localized changes in redox signalling and phosphorylation of the proteome are critically involved in changing the function of cardiac cells and contribute both to muscle-dependent pump failure and/or electrical changes predisposing to arrhythmias.

Although redox- and phosphorylation changes have been described in different heart diseases for decades, unfortunately this has not resulted in therapeutic consequences such as therapeutic targeting of select mechanisms by pharmacological compounds.

The missing informations towards this critical transition, which will be addressed within the IRTG, are the

- up to date global and quantitative phospho-proteome and redox-proteome analyses in stage-specific and particularly in early heart failure samples,
- the identification of the specifically involved enzymes as well as their cell-specific or compartment-specific function,
- the crosstalks between redox and phosphorylation changes, integration of the novel findings into more complex physiological and pathological settings and
- identification of putative therapeutic target molecules.